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# Electrical & Electronics Abstracts

Science Abstracts Series B  
July-December 1982

Subject Index

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## SIX-MONTHLY INDEXES TO SCIENCE ABSTRACTS

Cumulative indexes to Science Abstracts are published twice a year covering the period January-June and July-December. They comprise author and subject indexes and some specialised or 'small' indexes. For Physics Abstracts and Electrical & Electronic Abstracts the Author Index and Subject Index are published as separate volumes. In this case the Small Indexes are included in the Author Index volume.

Cumulative Author and Subject indexes for preceding years are also available. For details please see inside back cover.

### Subject Index

The Subject index provides an alphabetical subject key to the articles included in the abstracts journal. Some general guidance on its use is given below:

1. Look in the index for the name of the specific subject in which you are interested. In most cases this name will be a heading in the index and you will find relevant articles listed under it. The majority of the subject headings fall into the following categories: property, phenomena, substance or named objects, instrument, device, theory, method, process, application, event.
2. Occasionally you will be directed from the subject heading chosen to a different heading under which the relevant or additional articles are listed.
3. If you do not find the subject heading you first chose, try a more general heading.
4. Each entry under the heading relates to an article appearing in the abstracts journal and gives the serial number of that article in the journal preceded by the last digit of the current year, e.g. 2 - 12345; i.e. Abstracts number 12345 in the abstracts journal for 1982.

The language of the article, if it is not in English, is also indicated, e.g. digital US tester develop. (Japanese) 2 - 11359.

Each entry starts with a Keyword or Keyphrase considered to be most relevant to the heading. On sorting these Keywords, the qualifying prefixes are usually ignored. (e.g. n-Ge is sorted under Ge.

There are four main Keyword lists; numerical 1-9, alphabetical A-Z, elementary particles, and chemical symbols (organic substances are written and not given as chemical formula). More than one Keyword list may be present under each subject heading.

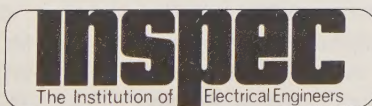
Usually more than one access point is provided for each document. For document on, say, 'Coupling of optical data collection lines', three access points are provided. Under the heading 'Optical Fibres' and 'Optical Couplers', the Keyphrase will be 'data collection line' and under the heading 'Cable jointing', the Keyword will be 'Optical'.

# Electrical & Electronics Abstracts

**Science Abstracts Series B**

**July-December 1982**

## Subject Index



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## Erratum

### Electrical & Electronics Abstracts

Item 49375 of October 1982, title of paper should read:

A frequency and duration approach for interconnected system reliability evaluation.

# Abbreviations and Acronyms

Abbreviations and acronyms are used in the modifiers in all INSPEC Cumulative Subject Indexes. Individual terms should be readily understood in the context of the subject headings. **Inorganic substances** are usually given by their chemical formulae. Iron and aluminium garnets appear in the formulae lists as MIG and MAG (where M is metal element, e.g. YIG and YAG);  $(\text{Pb,Lu})(\text{Zr,Ti})\text{O}_3$  and  $\text{Ce}_2\text{Mg}_3(\text{NO}_3)_{12}$  appear as PLZT and CMN respectively. **Organic substances** including **liquid crystals** are not given as formulae but common abbreviations are used.

ABS resin	acrylonitrile-butadiene-styrene	CESR	conduction electron spin resonance
AC	alternating current	CGTO	contracted Gaussian-type orbital
ACV	air cushion vehicle	CHF	coupled Hartree-Fock
A/D	analogue-to-digital	CI	configuration interaction
ADC	analogue digital conversion	CIDEP	chemically induced dynamical electron polarisation
ADP	administrative data processing	CIDNP	chemically induced dynamical nuclear polarisation
AE	acoustic emission	CIEH	charge iterated extended Huckel
AEC	atomic electron correlation(s)	CIHY	configuration interaction Hylleras
AES	Auger electron spectra(oscopy)	CM	computer managed instruction
AF	audio frequency	CMOS	complementary metal-oxide-semiconductor
AFC	automatic frequency control	CNC	computerised numerical control
AFL	abstract family of languages	CNDO	complete neglect of differential overlap
AFMR	antiferromagnetic resonance	COC	cholesteryl oleyl carbonate
AGC	automatic gain control	COM	computer output to microform (fiche or film)
AGR	advanced gas-cooled reactor	COOB	4,4'-cyano-octyloxy-biphenyl
ALARA	as low as reasonably achievable	CP	charge, parity
ALU	arithmetic logic unit	CPA	coherent potential approximation
AM	amplitude modulation	CPA	critical path analysis
APACHE	accelerator for physics and chemistry of heavy elements	CPM	critical path method
APR	acoustic paramagnetic resonance	CPSK	coherent phase shift keying
APS	appearance potential spectra(oscopy)	CPT	charge, parity, time
APW	augmented plane wave	CPU	central processing unit
ARMA	autoregressive moving average	CRO	cathode ray oscilloscope
ASCII	American standard code for information exchange	CRSR	coherent resonant Stokes rotation
ATC	air traffic control	CRT	cathode ray tube
ATE	automatic test equipment	CS	coupled states
ATM	Axilrod-Teller-Moto	CSM	continuous slowing down models
ATR	attenuated total reflection	CSRS	coherent Stokes-Raman spectra(oscopy)
ATWS	anticipated transients without scram	CT	computerised tomography
AVC	automatic volume control	CTR	controlled thermonuclear reactor
		CVD	chemical vapour deposition
		CW	continuous wave
BARITT	barrier injection transit time		
BBEA	4-butoxybenzal-4'-ethylaniline	D/A	digital-to-analogue
BBGKY	Bogoliubov-Born-Green-Kirkwood-Yvon	DAC	digital analogue conversion
BCC	body centred cubic	DBMS	database management system
BCD	binary-code decimal	DBR	distributed Bragg reflector
BCS	Bardeen-Cooper-Schrieffer	DC	direct current
BFO	beat-frequency oscillator	DDC	direct digital control
BH	buried heterostructure	DIP	dual in-line package
BWO	backward wave oscillator	DDL	diode-diode logic
BWR	boiling water reactor	DECENT	distribution of exact classical energy transfer
BWT	backward wave tube		
		DESY	Deutsches Electron Synchrotron
CAD	computer aided design	DF	Dirac-Fock
CAE	computer aided engineering	DFB	distributed feedback
CAI	computer assisted instruction	DH	double heterostructure
CAM	computer aided manufacturing	DIL	dual-in-line
CARS	coherent antiStokes Raman scattering (spectra)	DITE	divertor in torus experiment
CATV	community antenna TV	DLTS	deep level transient spectra(oscopy)
CB	citizen band	DM	delta modulation
CBI	computer based instruction	DMA	direct memory access
CBOOA	cyanobenzylidene octyloxyaniline	DMM	digital multimeter
CCBA	coupled channel Born approximation	DMOS	double diffused metal-oxide-semiconductor
C-CD	charge-coupled device	DMSO	dimethylsulphoxide
CDFR	commercial demonstration fast reactor	DNA	deoxyribonucleic acid
CDI	collector diffusion isolation	DNMR	double nuclear magnetic resonance
CDM	code division multiplexing	DOBAMBC	p-decyloxybenzylidene p'-amino 2-methyl butyl cinnamate
CDW	charge-density wave		
CEM	channel electron multiplier	DOD	different orbitals for different spins
CEPA	coupled electron pair approximation	DORIS	Dopple-ring-Speicher
CERN	Conseil Européen pour la Recherche Nucléaire	DOS	disc operating system



DOVETT	double velocity transit time	FDM	frequency division multiplex(ing)
DP	data processing	FDNC	frequency dependent negative conductance
DPCM	differential pulse code modulation	FDNR	frequency dependent negative resistance
DPPH	diphenylpicrylhydrazyl	FEM	field emission microscopy
DPSK	differential phase shift keying	FET	field effect transistor
DSC	differential scanning calorimetry	FFHR	fusion-fission hybrid reactor
DTA	differential thermal analysis	FFT	fast Fourier transform
DVM	digital voltmeter	FFTF	fast flux test facilities
DV-X $\alpha$	discrete variational X $\alpha$ method	FIM	field ion microscopy
DWBA	distorted wave Born approximation	FIR	finite impulse response
DWIA	distorted wave impulse approximation	FM	frequency modulation
E1,E2	electric dipole, quadrupole	FMIT	fission materials irradiation test facility
E <sup>2</sup> PROM	electronically erasable read-only-memory	FMR	ferromagnetic resonance
EAROM	electronically alterable read-only-memory	FMSR	fast mixed spectrum reactor
EAS	extensive air shower	FPT	finite perturbation theory
EB	exponential Born	FPLA	field programmable logic array
EBBA	4-ethoxybenzylidene-4'n-butylaniline	FSK	frequency-shift keying
EBIC	electron beam induced current(s)	FSGO	floating spherical Gaussian orbitals
EBR	experimental breeder reactor	FTR	fast test reactor
EBT	Elmo Bumpy Torus		
ECC	emergency core cooling	GAMBIT	gate modulated bipolar transistor
ECCM	electronic counter-counter measures	GANIL	grand accélérateur national a ions Lourds
ECELR	epithermal critical experiment laboratory reactor	GCFR	gas-cooled fast breeder reactor
ECG	electrocardiography (-gram)	GCM	generator coordinate method
ECL	emitter coupled logic	GDR	giant dipole resonance
ECM	electronic countermeasures	GHF-NO-CI	generalised Hartree-Fock/natural orbital/ configuration interactions
EDA	ethylene diamine	GIAO	gauge-invariant atomic orbitals
EDP	electronic data processing	GO	Gaussian orbitals
EDTA	ethylene diamine tetra-acetic acid	GOO	generalised Overhauser orbitals
EEBAC	ethyl-4-(4'-ethoxy-benzylidene-amino) cinnamate	GPM	ground potential model
EEG	electroencephalography (-gram)	GTO	Gaussian-type orbitals
EELS	electron energy loss spectra(oscopy)	GVB	generalised valence bond
EEPROM	electrically erasable programmable read-only-memory		
EFM	extended Flygare method	HAM	hydrogenic atoms in molecules
EFT	electronic funds transfer	HBAB	hexyloxybenzylidene-p' aminobenzonitrile
EHD	electrohydrodynamics	HBT	N-(p-hexyloxybenzylidene)-p-toluidene
EHF	extremely high frequency	HCDA	hypothetical core disruptive accident
EHP	electron-hole potential method	HCP	hexagonal close packed
EHT	extended Huckel theory	HEED	high energy electron diffraction
EHV	extra high voltage	HEMP	high altitude electromagnetic pulse
ELDOR	electron electron double resonance	HF	high frequency or Hartree-Fock
ELF	extremely low frequency	HFB	Hartree-Fock-Bogoliubov
EM	electromagnetic	HFER	hot fuel examination facility
EMC	electromagnetic compatibility	HFIR	high flux isotope reactor
EMF	electromotive force	HFO	Hartree-Fock-Overhauser
EMG	electromyography (-gram)	HFS	hyperfine structure
EMI	electromagnetic interference	HGMS	high gradient magnetic separation
EMP	electromagnetic pulse	HIXE	heavy ion induced X-ray emission
ENDOR	electron nuclear double resonance	HLW	high level waste (radioactive)
ENG	electronic newsgathering	HMO	Huckel molecular orbitals
EOF	end of file	HOAB	heptyloxyazoxybenzene
EPEN	empirical potential energy function based on interactions of electrons and nuclei	HOBHA	p-n-heptyloxy-benzylidene-p-n heptylaniline
EPMA	electron probe microanalysis	HOMO	highest occupied molecular orbitals
EPR	electron paramagnetic resonance	HTGR	high temperature gas-cooled reactor
EPROM	erasable programmable read-only-memory	HV	high voltage
ERG	electroretinography (-gram)	HVEM	high voltage electron microscopy
ESCA	electron spectroscopy for chemical analysis	HWR	heavy water reactor
ESCAR	experimental superconducting accelerating ring	IAEA	International Atomic Energy Authority Agency
ESFI	epitaxial silicon film on insulator	IBA	interacting boson approximation
ESS	electronic switching system	IBM	interacting boson model
EUV	extreme ultraviolet	IBPBAC	isobutyl-4-(4'-phenylbenzylideneamino) cinnamate
EW	electronic warfare	IC	integrated circuit
EXAFS	extended X-ray absorption fine structure	ICDF	intermediate coupling Dirac-Fock
FAMOS	floating gate avalanche metal-oxide- semiconductor	ICF	inertial confinement fusion
FBR	fast breeder reactor	IDT	interdigital transducer
FCC	face centred cubic	IEPA	independent electron pair approximation
		IETS	inelastic electron tunnelling spectra(oscopy)
		IF	intermediate frequency
		IGFET	insulated gate field effect transistor



IR	infinite impulse response	M1,M2	magnetic dipole, quadrupole
IKO	Institute v. Kernph Ouder Amsterdam	MBBA	4-methoxybenzylidene-4'-n-butyl-aniline
I <sup>2</sup> L	integrated injection logic	MBE	molecular beam epitaxy
I <sup>3</sup> L	isoplanar I <sup>2</sup> L	MBPT	many body perturbation theory
ILS	instrument landing system	MCD	magnetic circular dichroism
IMPATT	impact avalanche transit time	MCSCF	multiconfiguration self-consistent-field
INDO	intermediate neglect of differential overlap	MCPESCF	multiconfiguration paired excitation SCF
INDOR	internuclear double resonance	MCZDO	multi-centre zero differential overlap
ING	intense neutron generator	MCX <sub>α</sub>	multiconfiguration X <sub>α</sub>
INO	iterative natural orbital	MEC	molecular electron correlation(s)
INTELSAT	international telecommunications satellite consortium	MEDO	multipole expansion of diatomic overlap
I/O	input/output	MESFET	metal-semiconductor field effect transistor
IOC-α	inclusion of the overlap charges in the omega	MF	medium frequency
IPSS	international packet switching service	MFP	mean free path
IR	infrared	MHD	magnetohydrodynamics
IRDO	intermediate retention of differential overlap	MIC	microwave integrated circuit
IRS	information retrieval system	MIDP	microwave induced delayed phosphorescence
ISABELLE	intersecting storage and acceleration	MIEHM	modified iterative extended Huckel method
ISFET	ion-sensitive field effect transistor	MIM	metal-insulator-metal
ISL	integrated Schottky logic	MIMD	multiple input multiple data
ISR	intersecting storage ring	MIS	metal-insulator-semiconductor or management information system
ISX	impurity study experiment	MIT	Massachusetts Institute of Technology
ITC	ionic thermocurrents	MM	millimetre
ITEP	Institute of Theoretical and Experimental Physics	MMF	magnetomotive force
ITR	ignition test reactor	MNOS	metal-nitride-oxide-semiconductor
IU	Indiana University	MO	molecular orbitals
IVO	improved virtual orbitals	MOCIC	molecular orbital constraint of interaction coordinates
JAERI	Japan Atomic Energy Research Institute	MOCVD	metal-organic chemical vapour deposition
JET	Joint European torus	MODPOT	model potential
JFET	junction field effect transistor	MOS	metal-oxide-semiconductor
JINR	Joint Institute for Nuclear Research	MOSFET	metal-oxide-semiconductor field effect transistor
KEK	Japan National Laboratory for High Energy Physics	MOST	metal-oxide-semiconductor transistor
KKR	Korringa-Kohn-Rostoker	MRD	multi-reference double excitation
LAMPF	Los Alamos meson physics facility	MRINDO	modified Rydberg INDO
LC	inductance-capacitance	MS	management science
LCAO	linear combination of atomic orbitals	MSI	medium scale integration
LCBO	linear combinations of (semi-localised) band orbitals	MSK	minimum shift keying
LCD	liquid crystal display/device	MSR	molten salt reactor
LCGO	linear combination of Gaussian orbitals	MSU	Michigan State University
LCP	large coil program	MTBF	mean-time between failures
LCRO	linear combination of Rydberg orbitals	MTF	modulation transfer function
LEC	liquid encapsulated Czochralski	MTX <sub>α</sub>	muffin-tin X <sub>α</sub>
LED	light emitting diode	MUF	maximum usable frequency
LEED	low energy electron diffraction	MWPC	multiwire proportional chamber
LEP	large electron positron	NAL	National Accelerator Laboratory
LET	linear energy transfer	NAND	not-and(logic)
LF	low frequency	NC	numerical control
LMC	Large Magellanic Cloud	NCMET	non-closed shell many electron theory
LMFBR	liquid metal fast breeder reactor	NDDO	neglect of diatomic differential overlap
LMTO	linear combination of muffin tin orbitals	NDT	nondestructive testing
LNG	liquefied natural gas	NEMO	non-empirical molecular orbitals
LOCA	loss of coolant accident	NEVE	non-empirical valence-electron
LOCE	loss of coolant experiment	NHS	National Health Service
LOFT	loss of flow test facility	NIC	negative impedance convertor
LPE	liquid phase epitaxy	NMOS	N-channel metal-oxide-semiconductor
LSA	limited space charge accumulation	NMR	nuclear magnetic resonance
LSD	local spin density	NMR-ON	NMR on oriented nuclei
LSI	large-scale integration	NNDO	neglect of non-neighbour differential overlap
LTE	local thermodynamic equilibrium	NOR	not-or(logic)
LUMO	lowest unoccupied molecular orbitals	NQR	nuclear quadrupole resonance
LV	low voltage	NRC	nuclear regulatory committee
LWBR	light water breeder reactor	NRM	natural remanent magnetisation
LWR	light water reactor	NSSS	nuclear steam supply system
MADO	Mulliken approximation for differential overlap	NTO	natural transition orbitals
		OCR	optical character recognition
		ODMR	optical detection of magnetic resonance
		OEM	original equipment manufacture
		OER	oxygen enhancement ratio



OPHF	orbital polarised Hartree-Fock	PWBA	plane wave Born approximation
OPW	orthogonal plane wave	PWIA	plane wave impulse approximation
OR	operations research	PWM	pulse width modulation
ORELA	Oak Ridge electron linear accelerator	PWR	pressurised water reactor
ORNL	Oak Ridge National Laboratory		
OS	operating system	QCD	quantum chromodynamics
OTEC	ocean thermal energy conversion	QDMBPT	quasi-degenerate many-body perturbation theory
OTF	optical transfer function	QED	quantum electrodynamics
		QPSK	quaternary phase shift keying
PAA	paraazoxyanisole		
PABX	private automatic branch exchange	RAM	random access memory
PAC	perturbed angular correlation	RBE	relative biological effectiveness
PAHR	post accident heat removal	RC	resistance-capacitance
PAM	pulse amplitude modulation	RCNDO	Rydberg CNDO
PAP	paraazoxyphenetole	RCS	rapid cycling synchrotron
PBF	power bursts facility	R & D	research and development
PBR	pebble bed reactor	RF	radio frequency
PBX	private branch exchange	RFI	radio frequency interference
PC	printed circuit	RG	renormalisation group
PCAC	partially conserved axial currents	RHEED	reflection high energy electron diffraction
PCB	printed circuit board	RHF	restricted Hartree-Fock
PCES	phase change energy storage	RINDO	Rydberg INDO
PCGVB	pairwise correlated generalised valence bond	RKKY	Rudermann-Kittel Kasuya-Yosida
PCILOCC	perturbative configuration interaction using localised orbitals for crystal calculation	RLC	resistance-inductance-capacitance
PCM	pulse code modulation	RMS	root-mean-square
PCR/V	prestressed concrete reactor vessel	RNA	ribonucleic acid
PCX	plasma confinement experiment	ROM	read-only memory
PDX	poloidal divertor experiment	RPA	random phase approximation
PEP	positron electron proton	RPAE	random phase approximation with exchange
PET	polyethylene terephthallate	RPM	relaxation potential model or revolutions per minute
PETRA	positron electron tandem ringbeschleuniger anlage	RTG	radioisotope thermoelectric generators
PF	power factor	SACCI	symmetry adapted cluster configuration interaction
PFM	pulse frequency modulation		
PFR	prototype fast reactor	SAMO	simulated ab initio molecular orbitals
PHWR	pressurised heavy water reactor	SAW	surface acoustic waves
PID(PI,PD)	proportional+integral+differential (derivative)	SCC	stress corrosion cracking
PIXE	proton induced X-ray emission	SCF	self consistent field
PLA	phase locked arrays or programmable logic array	SCL	space charge limited
		SCPT	self consistent perturbation theory
PLBR	prototype large breeder reactor	SCR	silicon controlled rectifier
PLC	programmable logic control	SDM	space division multiplexing
PLL	phase locked loops	SDO	shielded diatomic orbitals
PLT	Princeton Large Torus	SEHF	spin extended Hartree-Fock
PM	pulse modulation	SEM	scanning electron microscope
PMMA	polymethylmethacrylate	SFE	solar-flare effect
PMDR	phosphorescence microwave double resonance	SGEMP	system generated electromagnetic pulse
		SGHWR	steam generating heavy water reactor
PMOS	P-channel metal-oxide-semiconductor	SHF	superhigh frequency
PMR	proton magnetic resonance	SHG	second harmonic generation
PND0	partial neglect of differential overlap	SIMS	secondary ion mass spectra(oscopy)
PNO-CI	pair natural orbital configuration interaction	SIN	Swiss Institute of Nuclear Research
POL	pair orthogonalised Lowdin	SINDO	scaled INDO
POPAE	protons on protons and electrons	SISAM	spectrometer with interference selective amplitude modulation
POPOP	phenyl-oxazolyl-phenyl-oxazolyl-phenyl		
POS	point of sale	SIT	static induction transistor
PPDP/S	Pariser-Parr-Del Bene-Pople/Segal calculations	SMC	Small Magellanic Cloud
		S/N	signal-to-noise
PPI	plan position indicator	SOG	strongly orthogonal geminal
PPM	pulse position modulation or parts per million	SOS	silicon on sapphire
PPP	Pariser-Parr-Pople	SPA	separated pair approximation
PRDDO	parial retention of diatomic differential overlap	SPC	stored program control
PRF	pulse recurrence (repetition) frequency	SPEAR	Stanford positron electron asymmetric ring
PROM	programmable read-only-memory or Pockels readout optical modulator	SPHF	spin polarised Hartree-Fock
		SPIN-CIPSI	spin symmsetry adapted generalisation of CIPSI
PS	proton synchrotron (CERN)		
PSK	phase shift keying	SPS	super proton synchrotron (CERN)
PTFE	polytetrafluoroethylene	SREMP	source region electromagnetic pulse
PTM	pulse time modulation	SQUID	superconducting quantum interference device
PVC	polyvinyl chloride	SRMCASE	symmetry-restricted-multiconfiguration annihilation of single excitations
PWA	partial wave analysis		
PWB	printed wiring board	SSB	single sideband



SSBW	surface skimming bulk wave	TUCA	transient undercooling accident
SSC	sudden storm commencement	TV	television
SSI	small scale integration	TW	travelling wave
SST	supersonic transport	TWT	travelling wave tube
STD	salinity-temperature-depth or subscriber trunk dialling	UART	universal asynchronous receiver/transmitter
STEC	solar thermal energy conversion	UCHF	uncoupled Hartree-Fock
STEM	scanning transmission electron microscopy	UHF	ultra high frequency or unrestricted Hartree-Fock
STO	Slater-type orbitals		
STOL	short take-off and landing	UHPS	underground hydroelectric pumped storage
STP	Slater-transfer Preuss	UHV	ultra high voltage
SW	short wave	UKAEA	United Kingdom Atomic Energy Authority
SWR	standing wave ratio	ULA	uncommitted logic array
SXAPS	soft X-ray appearance potential spectrum	ULF	ultra low frequency
		UMD	unitised microwave devices
TBBA	terephthal-butylaniline	UPS	ultraviolet photoelectron spectra
TCNE	tetracyanoethylene	US	ultrasonic
TCNQ	tetracyanoquinodimethane	UV	ultraviolet
TCR	temperature coefficient of resistance		
TDHF	time dependent Hartree-Fock	VAD	vapour phase axial deposition
TDM	time division multiplex(ing)	VB	valence bond
TDMA	time division multiple access	VCR	video cassette recorder
TDPAC	time differential perturbed angular correlation	VDM	vector dominance model
TDS	thermal desorption spectra(oscopy)	VDU	visual display unit
TE	transverse electric	VHF	very high frequency
TEA	transversely excited atmosphere	VLBI	very long base line interferometry
TEGFET	two-dimensional electron gas field effect transistor	VLF	very low frequency
		VLSI	very large scale integration
TEM	transverse electromagnetic or transmission electron microscopy	VMOS	vertical channel metal-oxide-semiconductor
TEXT	Texas Experimental Tokamak	VOR	VHF omnidirectional range
TFTR	Tokamak fusion test reactor	VPE	vapour phase epitaxy
TGA	thermogravimetric analysis	VRC	visual record computer
TGFB	triglycine fluoroberyllate	VRDDO	variable retention of diatomic differential
TGS	triglycine sulphate	VS	virtual storage
TGSe	triglycine selenate	VSB	vestigial sideband
TJS	transverse junction stripe	VSEPR	valence shell electron pair repulsion
TLD	thermoluminescent dosimeter(-ry)	VSWR	voltage standing wave ratio
TM	transverse magnetic	VTOL	vertical take-off and landing
TMI	Three Mile Island	VTR	voltage transformation ratio or video tape recorder
TMMC	tetramethylammonium manganese chloride	VUV	vacuum ultraviolet
TMMTSF	tetramethyltetraselenofulvalene	VVER	water moderated water cooled reactors
TMTTF	tetramethyltetrathiofulvalene		
TOP	transient overpower accident	WKB	Wentzel-Kramers-Brillouin
TNS	The next step	WP	word processing
TRAPATT	trapped plasma avalanche triggered transit	WVER	water moderated water cooled reactors
TREAT	transient reactor test facility		
TRM	thermoremanent magnetisation	XPS	X-ray photoelectron spectra
TSC	thermally stimulated currents		
TSEE	thermally stimulated exo-electron emission	ZEBRA	zero energy breeder reactor assembly
TTF	tetrathiofulvalinium	ZGS	zero gradient synchrotron
TTL	transistor transistor logic	ZPPR	zero power plutonium reactor
TTT	tetrathiotetracene		



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# Subject Index

**1/f noise** *see random noise*

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*aberrations in optics and particle optics only*

*see also lenses; optical instrument testing; particle optics*

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- see also *band structure of crystalline semiconductors and insulators; band theory models and calculation methods; Brillouin zones; conduction bands; degenerate semiconductors; electron energy states of amorphous solids; electron energy states of liquid semiconductors; energy gap; Fermi surface; many-valley semiconductors; valence bands*  
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**copyright** *see industrial property*

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e.g. *see electroencephalography*

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**Esaki diodes** *see tunnel diodes*

**Esaki effect** *see tunnelling*

**ESCA** *see electron spectroscopy; spectrochemical analysis; X-ray photoelectron spectra*

**ESR** *see paramagnetic resonance*

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*see also information theory*

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see also *ferromagnetic resonance*

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**ferromagnetic resonance**

see also *ferromagnetic relaxation*

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**ferromagnets** see *ferromagnetic properties of substances; ferromagnetism*

**Feshbach resonances** see *atomic resonant states*

**f.e.t.** see *field effect transistors*

**f.h.p. motors** see *fractional-horsepower motors*

**fibre optics**

Used for fibre optic instruments and their components e.g. fibre optic gyroscopes, endoscopes and fibre lasers. For optical fibre waveguides used in telecommunications, see optical fibres

see also *optical fibres*

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rewinding *see* winding (process)

r.f. amplifiers *see* radiofrequency amplifiers

r.f. filters *see* radiofrequency filters

r.f. heating *see* radiofrequency heating

r.f. oscillators *see* radiofrequency oscillators

r.f. sputtering *see* radiofrequency sputtering

r.f.i. *see* radiofrequency interference

RHEED *see* reflection high energy electron diffraction

Richardson effect *see* thermionic emission

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ringers *see* bells

riometers *see* ionospheric measuring apparatus

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*see also* lakes

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*see also* artificial intelligence; industrial robots

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semiconductor diode light emitters *see light emitting diodes*

## semiconductor diodes

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*see also amorphous semiconductors; degenerate semiconductors; elemental semiconductors; heavily doped semiconductors; II-VI semiconductors; III-V semiconductors; III-VI semiconductors; IV-VI semiconductors; liquid semiconductors; magnetic semiconductors; many-valley semiconductors; narrow band gap semiconductors; organic semiconductors; polar semiconductors; semiconductors; ternary semiconductors*

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## tensile strength

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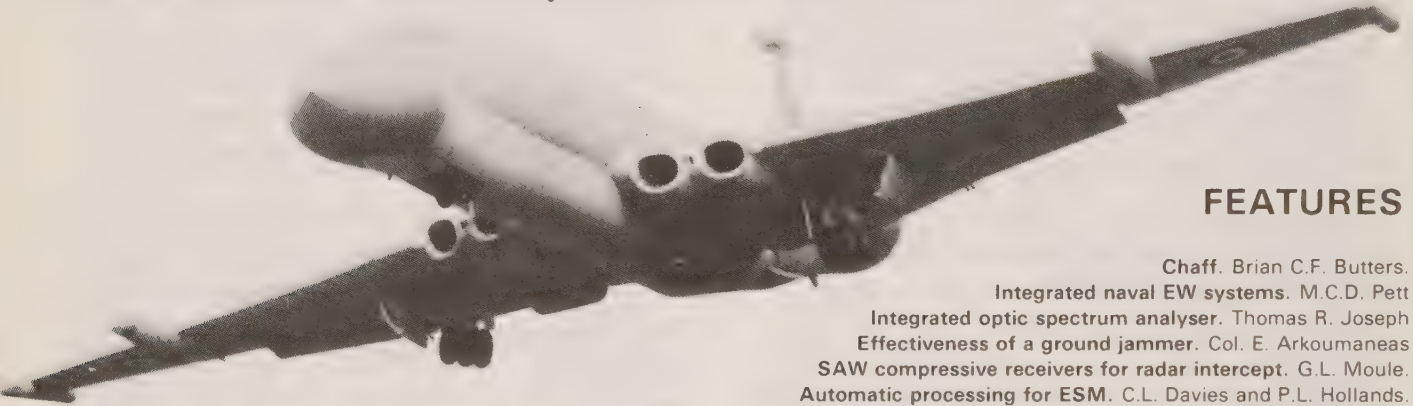
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